



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Commissioner

BENEFICIAL USE DETERMINATION
BWP SW 40

Lowell Regional Water Utility
Statewide Approval

Use of Water Treatment Plant Residuals as Alternative Daily Cover Material
and/or Shaping and Grading Material
October 2007

Applicant Name: **Lowell Regional Water Utility**
Mailing Address: 815 Pawtucket Boulevard
Lowell, MA 01853

Name of Facility: **Lowell Regional Water Utility**
Mailing Address: 815 Pawtucket Boulevard
Lowell, MA 01853

Operator: **Lowell Regional Water Utility**
Mailing Address: 815 Pawtucket Boulevard
Lowell, MA 01853

DEP Region: **Department of Environmental Protection**
("MassDEP" or "Department")
Business Compliance Division
1 Winter Street
Boston, MA 02108

Transmittal No.: **W138167**

I. APPLICATION INFORMATION

Application Information for BUD -- BWP SW 40

Applicant Name: Lowell Regional Water Utility

Transmittal No.: W138167

Application Prepared By:

Woodward & Curran

35 New England Business Center, Suite 180

Andover, MA 01810

Telephone No.: 978 557-8150

Title of Submittal: BWP SW 40 -- Beneficial Use Determination --
"Drinking Water Treatment Residuals"

II. BENEFICIAL USE PROPOSAL

The Lowell Regional Water Utility (LRWU) produces about 4 billion gallons a year of drinking water for the City of Lowell and surrounding communities. The treatment process involves the addition of chlorine dioxide for disinfection, sodium hypochlorite to remove ammonia and polyaluminum chlorite as a coagulant to remove suspended materials. The solids removed during this treatment are directed to lagoons where further settlement occurs and decanted liquid is discharged to the Merrimac River. After a number of years the solids collected in the lagoons need to be removed. It is these solids or water treatment plant (WTP) residuals that are the subject of this beneficial use determination (BUD).

The LRWU is requesting approval for use of the WTP residuals as alternative daily cover material at active landfills or as grading and shaping material used during closure of inactive landfills. The applicant has provided data to characterize the chemical and physical nature of the WTP residuals. About 23,000 cubic yards of material is generated about every 4-5 years.

III. GENERAL PERMIT CONDITIONS

- A. A determination of beneficial use means that the material is NOT classified as a solid waste ONLY when it is used in accordance with the requirements set forth in this determination. The material shall not be handled or utilized in a manner that will result in the material becoming a solid waste.
- B. The beneficial use of this material shall be in compliance with other applicable local, state and federal laws and regulations.
- C. MassDEP reserves the right to enter the LRWU facility for inspectional purposes. The inspection may include the sampling of WTP residuals.

- D. MassDEP reserves the right to rescind, suspend or modify this permit by the imposition of additional conditions based upon a determination of actual, or the threat of, adverse impacts from the beneficial use of this material.
- E. LRWU shall provide MassDEP, within seven (7) days or an alternative period prescribed in writing by MassDEP, any information which MassDEP may request and which is deemed by MassDEP to be relevant in determining whether a cause exists to modify, revoke, or suspend a permit, or to determine whether LRWU is complying with the terms and conditions of the permit
- F. *Personnel Training.* LRWU shall instruct or give on-the-job training to all personnel involved in any activity authorized by the permit. Such instruction or on-the-job training shall teach personnel how to comply with the conditions of the permit and to carry out the authorized activity in a manner that is not hazardous to public health, safety, welfare, or the environment.
- G. Failure to comply with this determination shall be grounds for enforcement action including without limitation, permit suspension and revocation.
- H. LRWU must notify MassDEP in writing of any changes in its process that may modify the physical or chemical nature of the material. A change in processing or use of the material other than specified in the beneficial use determination application will require additional review and approval.
- I. A copy of this permit shall be supplied to any Massachusetts landfill intending to use this material as alternative daily cover material (ADCM) or grading and shaping material. LRWU shall obtain a signature from the landfill operator indicating that the landfill operator has received a copy of the permit and is aware of the permit conditions that relate to landfill requirements.
- J. *Transfer of Permits.* Pursuant to 310 CMR 19.044, for a transferred permit to remain effective, written proof that the transfer has been completed must be provided to MassDEP within 30 days of the effective date of the transfer.

IV. WATER TREATMENT PLANT RESIDUALS CONDITIONS

- A. When lagoon residuals are planned to be removed, LRWU shall analyze the WTP residuals for the parameters as described in the application. If the results of that analysis are significantly different than the reported historical values, LRWU shall notify MassDEP. For purposes of this approval, significant shall be defined as any value that falls outside the 95% confidence interval of the statistical evaluation of the cumulative data. LRWU is not required to notify MassDEP if the results are consistent with historical values.
- B. LRWU shall ensure that all WTP residuals will be sufficiently dried before transportation such that no free water will be decanted during transportation.
- C. LRWU shall ensure that WTP residuals are properly contained during transportation and that the handling and transportation of the WTP residuals will not create nuisance conditions such as odors and dust.

V. LANDFILL CONDITIONS – USE AS ALTERNATIVE DAILY COVER

- A. The landfill operator shall immediately take steps to abate any nuisance condition(s) including, but not limited to, noise, dust and odor resulting from activities associated with the use of WTP residuals as alternative daily cover material (ADCM).
- B. The landfill operator shall notify the appropriate regional office of MassDEP at least thirty (30) days prior to its intended use of WTP residuals as ADCM.
- C. WTP residuals shall be mixed with other approved daily cover materials at a ratio of at least 1:1, by volume, when used as ADCM.
- D. The daily quantity of WTP residuals, in combination with all other materials used as daily cover, that may be used at a landfill shall not exceed the quantity necessary to meet the performance standards for daily cover specified at 310 CMR 19.130 (15). A quantity in excess of this amount may be considered disposal. Furthermore, daily cover is generally limited to a quantity no greater than twenty (20) percent by weight of the amount of waste disposed in that day. Daily cover materials used above this percentage may be considered disposal.
- E. A minimum quantity of daily cover material, other than WTP residuals, sufficient for nine (9) working days of operation shall be stockpiled at the landfill or shall be readily available.
- F. Landfills using WTP residuals generated by LRWU shall not stockpile more WTP residuals than can reasonably be used as alternative daily cover in a five (5) day period. Stockpiled WTP residuals shall be properly controlled to prevent runoff and nuisance conditions.
- G. Any landfill using WTP residuals shall keep accurate records of the amount of material used as ADCM. The amount of WTP residuals, soil and all other cover materials shall be reported in that landfill's annual report.
- H. MassDEP shall be notified as soon as possible, but no later than twenty-four (24) hours, should conditions of nuisance odor occur at the site as a result of the beneficial use activities.

VIII. LANDFILL CONDITIONS - GRADING AND SHAPING

- A. WTP residuals shall be used as grading and shaping material only if the landfill owner/operator applies for and receives approval from the appropriate Regional Office of MassDEP for its use as part of an approved closure plan for that facility.
- B. A copy of this permit and the application for modification of the closure plan as required in VIII.A. above shall be supplied to the Board of Health in the city or town where the landfill closure is taking place.
- C. WTP residuals shall be mixed with other approved grading and shaping materials at a ratio of at least 1:1, by volume, when placed during closure activity.

- D. The regional approval shall address site specific issues including, but not limited to, storage requirements (amounts and locations), quantity of material to be used, spreading and compacting requirements, length of time before exposed material is covered by other materials, amount of area that will have exposed WTP residuals, erosion and storm water controls and dust and other nuisance control methods.
- E. WTP residuals used as grading and shaping material shall be used in accordance with the standard operating procedures addressing record keeping, landfill operation practices and erosion control as stated below as those requirements may be modified by the regional approval required by VIII.A. above.
- F. Landfill Operating Practices. All WTP residuals shall be stockpiled within the landfill footprint. The landfill shall not stockpile more material than can be spread in a five (5) day period. Stockpiled WTP residuals shall be properly controlled to prevent runoff and nuisance conditions. All material shall be spread and compacted as soon as possible following receipt of the material. The material shall be placed in lifts not exceeding eighteen (18) inches and be compacted by a minimum of three (3) passes of landfill compaction equipment having a minimum equipment weight of twenty (20) tons. All WTP residuals shall be covered with soil or other approved materials within seven (7) days unless another lift of WTP residuals is placed within that time period.
- G. Erosion Control. Erosion controls, consisting of hay bales and silt fencing, shall be installed within areas receiving WTP residuals for grading and shaping to prevent migration of the material. In addition, hay bales and silt fencing shall be installed around all material stockpiles on site. Following placement, all material shall be graded to minimize erosion. Inspection of erosion control measures shall be performed on a regular basis and maintenance performed on an as needed basis. Dust control on the site shall consist of regular maintenance of access and service roadways to minimize dust generation. In the event of nuisance dust generation from areas of the site receiving WTP residuals a six (6) inch layer of other daily cover material shall be placed over the areas to minimize the generation of dust.
- H. The allowable amount of WTP residuals to be used as grading and shaping material at a site shall be limited to that quantity necessary for grading and shaping to achieve pre-capping contours as specified in the facility's approved final closure plan. Placement of WTP residuals in excess of what is needed to meet closure requirements does not constitute beneficial use. MassDEP may initiate enforcement actions, including notices of noncompliance, orders and penalties, and require the removal of WTP residuals that is placed in violation of a valid approval.
- I. Any landfill using WTP residuals shall keep accurate records of the amount of WTP residuals used as grading and shaping material. The amount of WTP residuals, soil and all other grading and shaping materials shall be reported in that Landfill's annual report.
- J. MassDEP shall be notified as soon as possible, but no later than twenty-four (24) hours, should conditions of nuisance odor occur at the site as a result of the beneficial use activities.

IX. RECORD KEEPING AND REPORTING

- A. LRWU shall retain at its business office all records and copies of applications, reports, and other documents required by this determination, which shall be readily available for inspection by MassDEP, for a period of three (3) years beyond the final distribution of WTP residuals as alternative daily cover or grading and shaping material.
- B. All WTP residuals shipped as alternative daily cover material or grading and shaping material shall be transported with a material shipping record detailing, at a minimum, the generating facility, receiving facility name, tonnage, date of shipment, date received and truck identification. The shipping and receiving facilities shall each maintain copies of the shipping record.

X. RIGHT OF APPEAL

Right to Appeal. Any person aggrieved by the issuance or denial of this permit decision except as provided for under 310 CMR 19.037 (4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of Massachusetts General Law (M.G.L.), Chapter 111, Section 150A not later than 30 days following the receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall remain effective or become effective at the conclusion of the 30 day period.

Notice of Appeal. Any aggrieved person intending to appeal a grant or denial of a permit to the Superior Court shall first provide notice of intention to commence such action. Said notice of intention shall include MassDEP file number and shall identify with particularity the issues and reason why it is believed the permit decision was not proper. Such notice shall be provided to the Office of General Counsel of MassDEP and the Deputy Division Director for Regulatory Standards of the Business Compliance Division at least five days before the filing of an appeal.

- a) Office of General Counsel
Department of Environmental Protection
One Winter Street
Boston, MA 02108
- b) Deputy Division Director, Regulatory Standards
Department of Environmental Protection
Business Compliance Division
One Winter Street
Boston, MA 02108

No allegation shall be made in any judicial appeal of a permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in these regulations, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

If you have any questions regarding this matter, please contact Paul Emond of the Business Compliance Division at (617) 292-5974.

Sincerely,



Steven A. DeGabriele
Director
Business Compliance Division
Bureau of Waste Prevention

Date: 10/14/07

CC: Solid Waste Section Chiefs
Woodward & Curran

